

Work Order ID 112407

112407

Page 1

Item ID: D3065-5

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Step Leg

Start Date: 30/01/2014 Start Qty: 80.00

80

Cust Item ID:

Required Date: 30/01/2014 Req'd Qty: 80.00

80

Customer:

Reference:

Approvals:

Process Plan: 

Date: 14-02-13

Tooling:

Date:

Run Start *NR1*

QC:

Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

D3065

Rev B

100

0.00

100

FLOW WATER JET

Waterjet

Memo

0.00

FLOW CNC Waterjet

1-Cut as per Dwg

Dwg Rev: _____

Prog Rev: _____

ISSUE PO PO 23011

POSSIBLE SUPPLIER: LOEBSACK WATERJET

101

0.00

101

Small Fab

Memo

0.00

Small Fab

DEBURR A/R

cmg 2/16/14

Jm 14/05/01

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: <u>112407</u> Part No. <u>D30655</u> NCR No. <u>14-3772</u>	DISPOSITION Rework <input type="checkbox"/> Scrap <input checked="" type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input checked="" type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input checked="" type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input checked="" type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design				Found at Recv inspection that the material was in parts had dimples + was delaminating the material. R.C. Supplier was using see attach NCR 14-3772	DAS 16 9-89 Q32042 14/04/24	Scrap + Destroy w/o repk. Q1 x 35.	mg 25/4/14	DAS 27 9-89 14/4/25	DAS 16 9-89 Q32042 14/04/24
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear	General	
<input type="checkbox"/> Bending	<input type="checkbox"/> Bend	<input type="checkbox"/> Folio/Program
<input type="checkbox"/> Centre Not Concentric	<input type="checkbox"/> BOM/Route	<input type="checkbox"/> Grain
<input type="checkbox"/> Cracks	<input type="checkbox"/> Broken/Damage/Defect	<input type="checkbox"/> Hardware
<input type="checkbox"/> Crimp/Kink/Ripple/Wave	<input type="checkbox"/> Burrs	<input type="checkbox"/> Inspection Incomplete/Unqualified
<input type="checkbox"/> Cuffs	<input type="checkbox"/> Contamination	<input type="checkbox"/> Instructions Incomplete/Unclear
<input type="checkbox"/> Crushing	<input type="checkbox"/> Countersink	<input type="checkbox"/> Misaligned/off center
<input type="checkbox"/> Heat Treat	<input type="checkbox"/> Cut Too Short	<input type="checkbox"/> Mislabeled
<input type="checkbox"/> Inspection Strip in Tube	<input type="checkbox"/> Drawing	<input type="checkbox"/> Misread
<input type="checkbox"/> Marks/Chatter	<input type="checkbox"/> Drill Holes	<input type="checkbox"/> Off-set
<input type="checkbox"/> Turning Sequence	<input type="checkbox"/> Finish	<input type="checkbox"/> Out of Calibration
<input type="checkbox"/> Wave/Twist in Tube	<input type="checkbox"/> Fit/Function	<input type="checkbox"/> Out of Sequence
		<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge
		<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other



Supplier Non-Conformance Report

Reviewed
DQA:
Date:

Printed on: Thursday, April 24, 2014

Details			
Raised Date 4/24/2014	Status Open	Owner Gregoire, Michael	Number NCR14-3772
Target Date 5/16/2014	Standard		Severity MAJOR
Process Quality Inspection		Audit	
Raised By Person Downing, Eric M	Raised Against (Department or Supplier) Loeb sack Waterjet Canada Ltd.		Fault Category Supplier
Details found during receiving inspection that several parts had dimple protruding on the parts and has the material de laminating the material. PO 23011 B112407 / B110750			
Keywords		Product D350-591\D3065-5	
Document		Root Cause	
Closed By	Closed Date	Resolution	

Details			
Target Date 5/16/2014	Owner Downing, Eric M	Closed Date	Closed By
Details			

ACTIONS			
Number	Owner	Target Date	Completed Date
Details		Response	
1	Gregoire, Michael	4/25/2014	
contact supplier of issue and inform them of the qty rejected as scrap			
2	Downing, Eric M	4/25/2014	
scrap the non conforming parts		D3065-5 B112407 qty 30 D3065-5 B110750 qty 30 (all parts on work order) recorded on work orders	

Verification & Review			
Target Date	Owner	Closed Date	Closed By
Details			

Actions			
Number	Owner	Target Date	Completed Date
Details		Response	

February-13-14 2:57:44 PM

Page 2

Accept

Setup Start *NS1*

Stop *NS2*

80

Cust Item ID:

80

Customer:

Reference:

Run Start *NR1*

Stop ***NR2***

Accept Qty	Reject Qty	Reject Number	Insp. Stamp
------------	------------	---------------	-------------

0.00

0.00

Hand Finish
Hand Finishing

0.00

0.00

QC
Quality Control

0.00

0.00

Packaging
Packaging

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
--	--	---	--

Work Order ID 112407

112407

Page 3

February-13-14 2:57:44 PM

Item ID: D3065-5 Accept *N900040100* Setup Start *NS1*

Revision ID: Stop *NS2*

Item Name: Step Leg

Start Date: 30/01/2014 Start Qty: 80.00 *80*

Required Date: 30/01/2014 Req'd Qty: 80.00 *80*

Reference: Cust Item ID: Customer:

Approvals: Process Plan: Date: Tooling: Date: Run Start *NR1*

QC: Date: SPC (Y/N): Date: Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
125	QC6- Inspect dimensions to drawing	0.00							
125									
QC	Memo	0.00							
Quality Control									
150	Identify as per dwg & Stock Location <u>G-A</u>	0.00							
150									
Packaging	Memo	0.00							
Packaging									
160	QC21- Final Inspection - Work Order Release	0.00							
160									
QC	Memo	0.00							
Quality Control									

DAS
36
9-89

59x 14/05/05

MJ 14-05-05

14-05-05

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence
		<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge
		<input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other

Picklist Print

February-13-14 2:57:48 PM

Page 1

Work Order ID: 112407

112407

Parent Item: D3065-5

D3065-5

Parent Item Name: Step Leg

Start Date: 30/01/2014

Required Date: 30/01/2014

Start Qty: 80.00

Required Qty: 80.00

Comments: IPP: C02.11.01Incorporated D3066-1 IPPKJ/RF
IPP Rev:D Now on Water Jet 06-04-11 JLM
IPP Rev:E Now manufactured with 6061-T6 06-05-25 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D3065-5P		Purchased		No			Each	0.0000		80			
D3065-5P									**				
Step Leg													

44/4/14 (80)

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

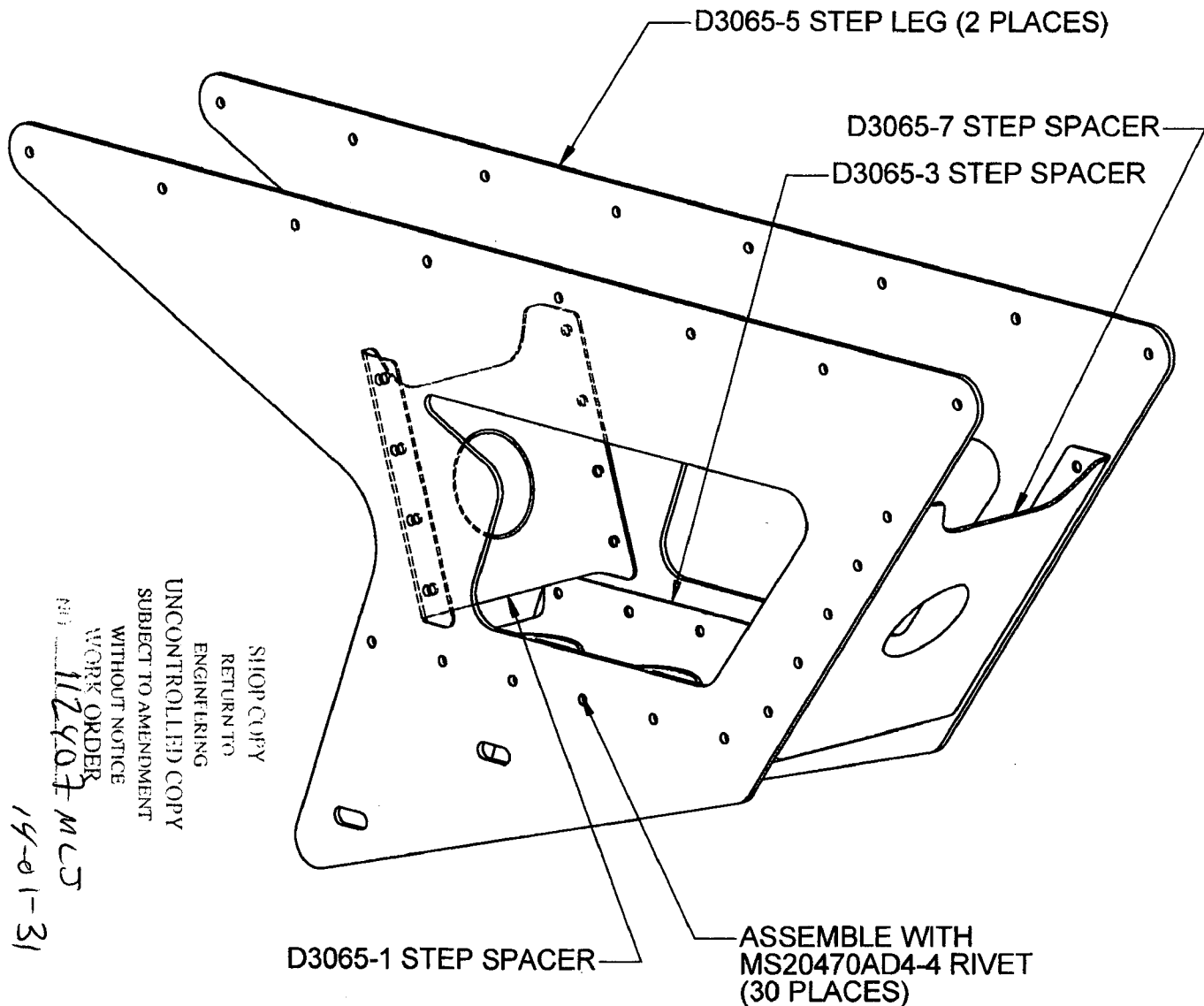
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric <input type="checkbox"/> Cracks <input type="checkbox"/> Crimp/Kink/Ripple/Wave <input type="checkbox"/> Cuffs <input type="checkbox"/> Crushing <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Marks/Chatter <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damage/Defect <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drawing <input type="checkbox"/> Drill Holes <input type="checkbox"/> Finish <input type="checkbox"/> Fit/Function	<input type="checkbox"/> Folio/Program <input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete/Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Misaligned/off center <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Off-set <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence	<input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced Set-up <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other
--	--	---	--



DESIGN <i>CP</i>	DRAWN BY <i>CB</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>PH</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3065	REV. B SHEET 1 OF 5
DATE 06.05.23		TITLE STEP LEG ASSEMBLY	SCALE 1:2
A	02.09.11	NEW ISSUE	
B	06.05.23	ADD 6061-T6 MATERIAL, ADD SLOTS TO D3065-5	

RELEASED

06-06-20 *[Signature]*



D3065-041 STEP LEG ASSEMBLY

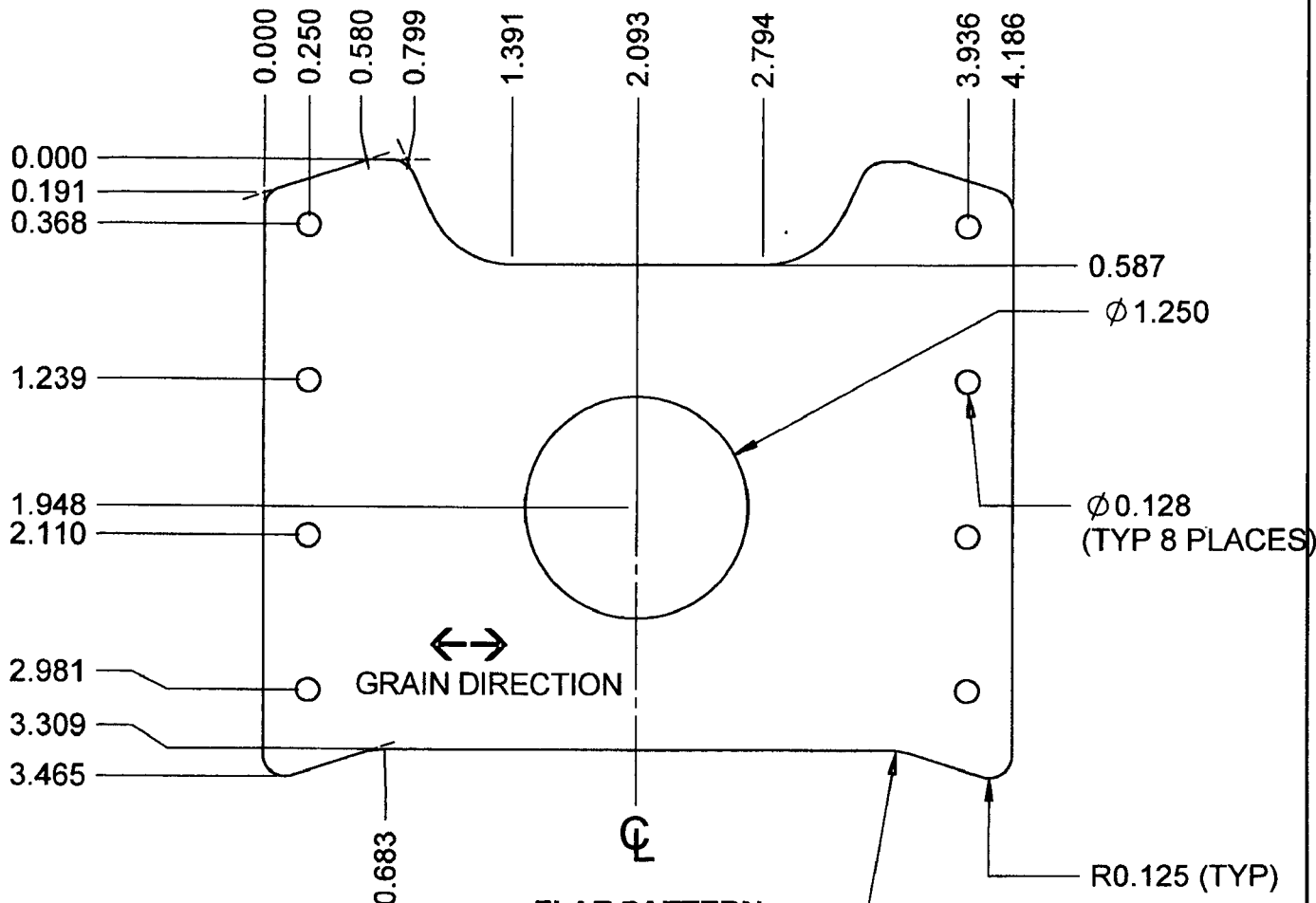
COPYRIGHT © 2002 BY DART AEROSPACE LTD.

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

STOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 112407 MLCJ
14-01-31



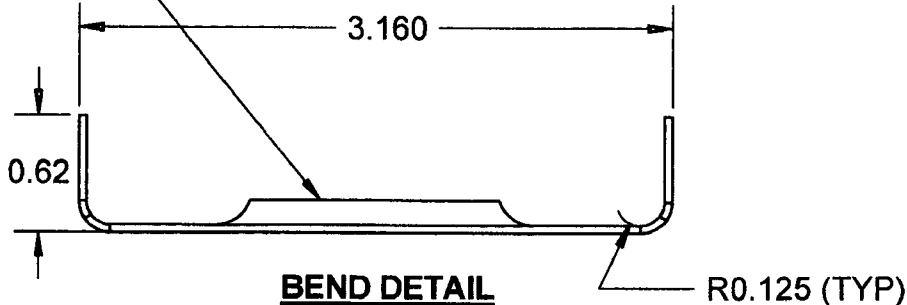
DESIGN <i>CP</i>	DRAWN BY <i>CB</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>PH</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3065	REV. B SHEET 2 OF 5
DATE 06.05.23	TITLE STEP LEG ASSEMBLY		SCALE 1:1



FLANGE AFTER BENDING
TOWARDS SIDE SHOWN
USING DT8174
(2 PLACES)

RELEASED

cl de 20 *[Signature]*



D3065-1 STEP SPACER

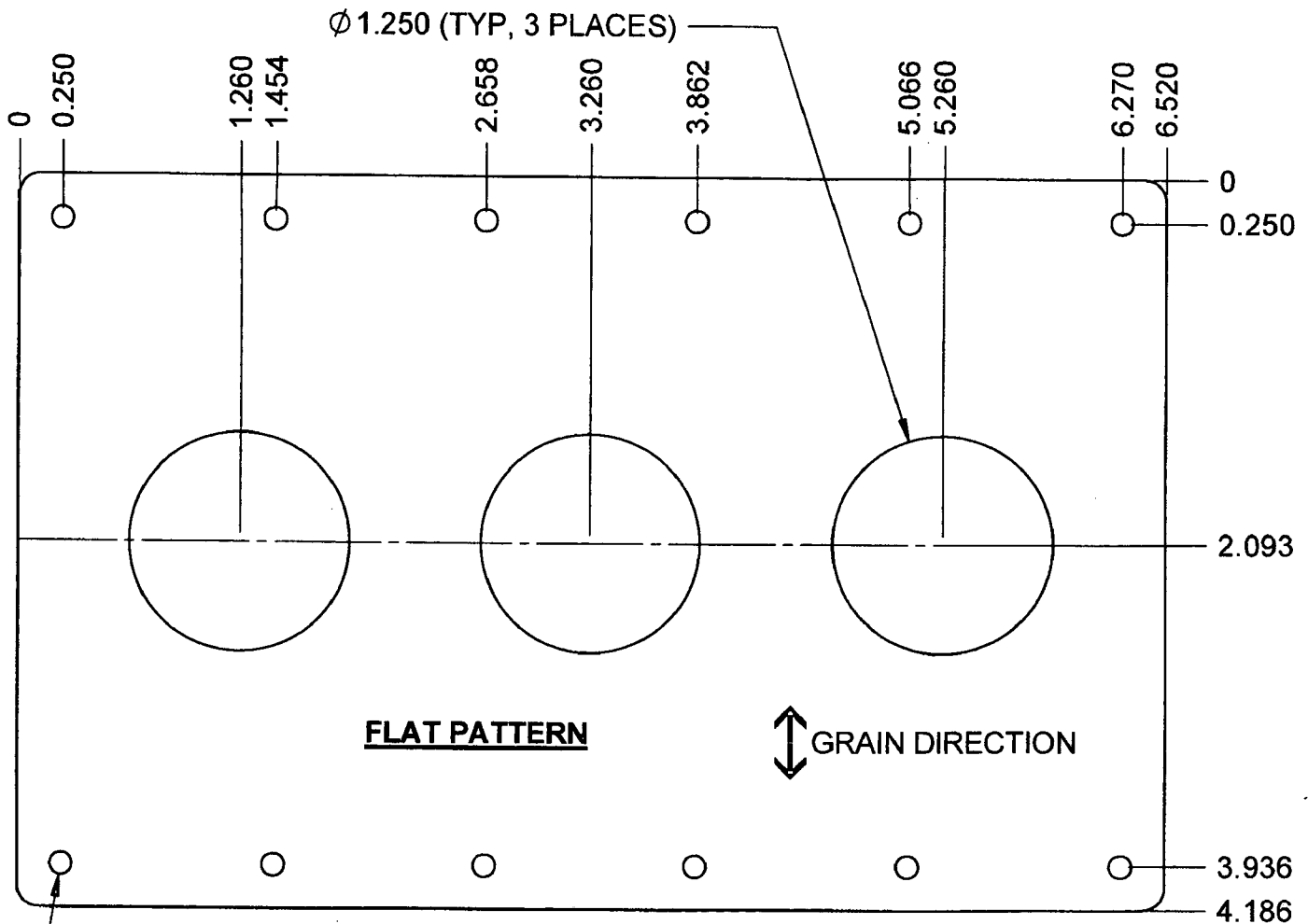
- 1) MATERIAL: 2024-T3 (QQ-A-250/4) 0.040 THICK (REF DART SPEC. M2024T3S.040)
- 2) FINISH: ACID ETCH & ALODINE PER DART QSI 005 4.1
- 3) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 4) PART IS SYMMETRIC ABOUT CENTERLINE
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 6) ALL DIMENSIONS ARE IN INCHES

COPYRIGHT © 2002 BY DART AEROSPACE LTD.

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.



DESIGN <i>CP</i>	DRAWN BY <i>CB</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>PH</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3065	REV. B
DATE 06.05.23	TITLE STEP LEG ASSEMBLY		SHEET 3 OF 5 SCALE 1:1

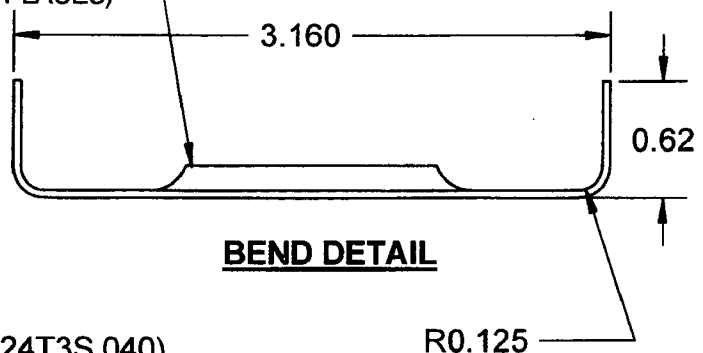


FLANGE AFTER TOWARDS SIDE
SHOWN USING DT8174 (3 PLACES)

Ø 0.129 (TYP, 12 PLACES)

RELEASED

Ch ck 20



BEND DETAIL

D3065-3 STEP SPACER

- 1) MATERIAL: 2024-T3 (QQ-A-250/4)
0.040 THICK (REF DART SPEC. M2024T3S.040)
- 2) FINISH: ACID ETCH & ALODINE PER DART QSI 005 4.1
- 3) PART IS SYMMETRIC ABOUT CENTERLINE
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 6) ALL DIMENSIONS ARE IN INCHES

COPYRIGHT © 2002 BY DART AEROSPACE LTD.

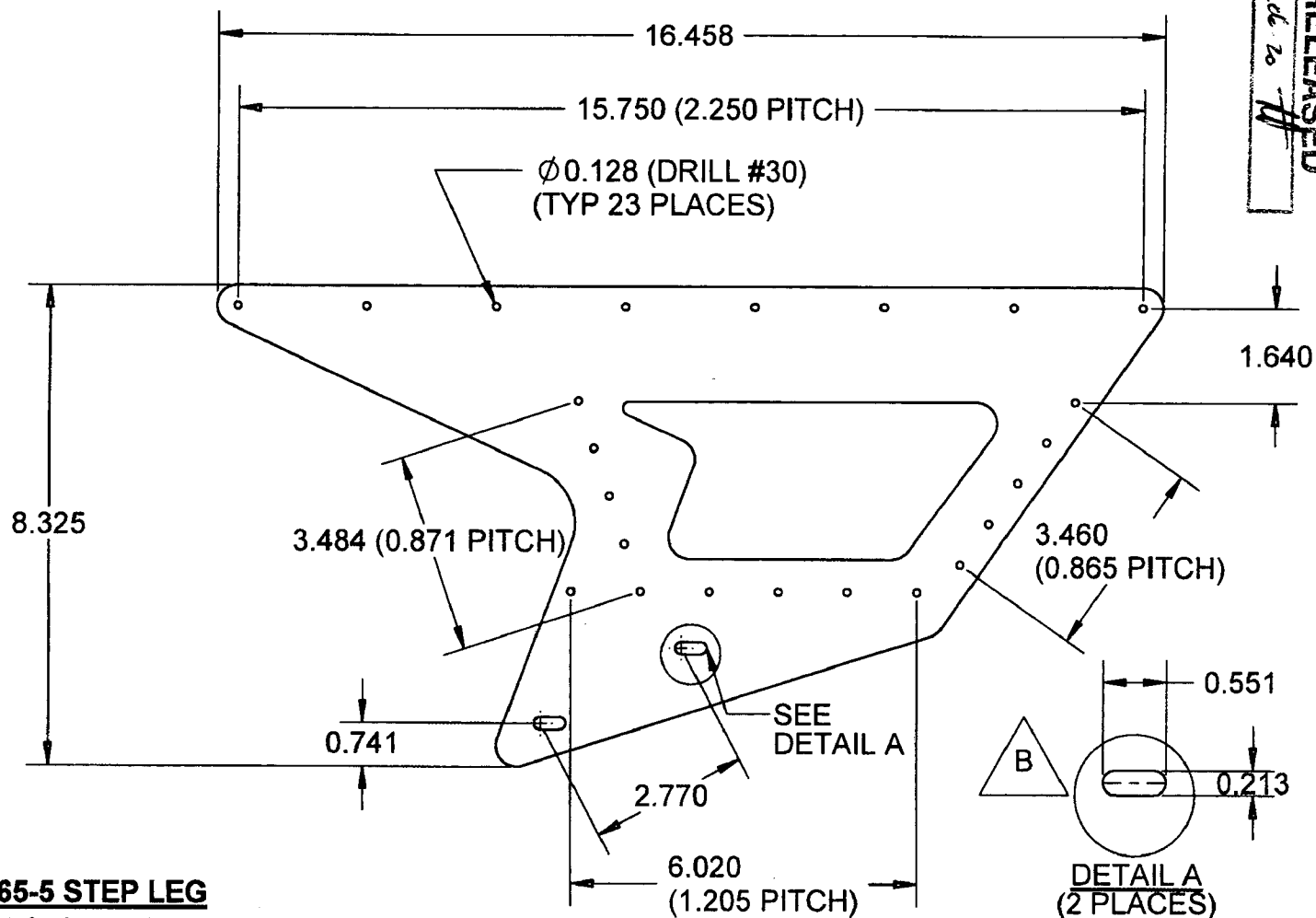
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.



DESIGN	40	DRAWN BY	C.B.	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
CHECKED	PH	APPROVED	PH	
DATE	06.05.23	DRAWING NO.	D3065	REV. B
		TITLE	STEP LEG ASSEMBLY	SHEET 4 OF 5
				SCALE 1:3

RELEASED

06.06.20



D3065-5 STEP LEG

- 1) MACHINE PER DWG FILE "D3065-5.SLDPRT"
- 2) MATERIAL: 6061-T6 (PER QQ-A-250/11 OR AMS 4025 OR AMS 4027) 0.080" THICK (REF DART SPEC M6061T6S.080)
OR
5052-H32 (PER QQ-A-250/8 OR AMS 4016) 0.080 THICK (REF DART SPEC. M5052H32S.080)
- 3) FINISH: ACID ETCH & ALODINE PER DART QSI 005 4.1
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 6) ALL DIMENSIONS ARE IN INCHES

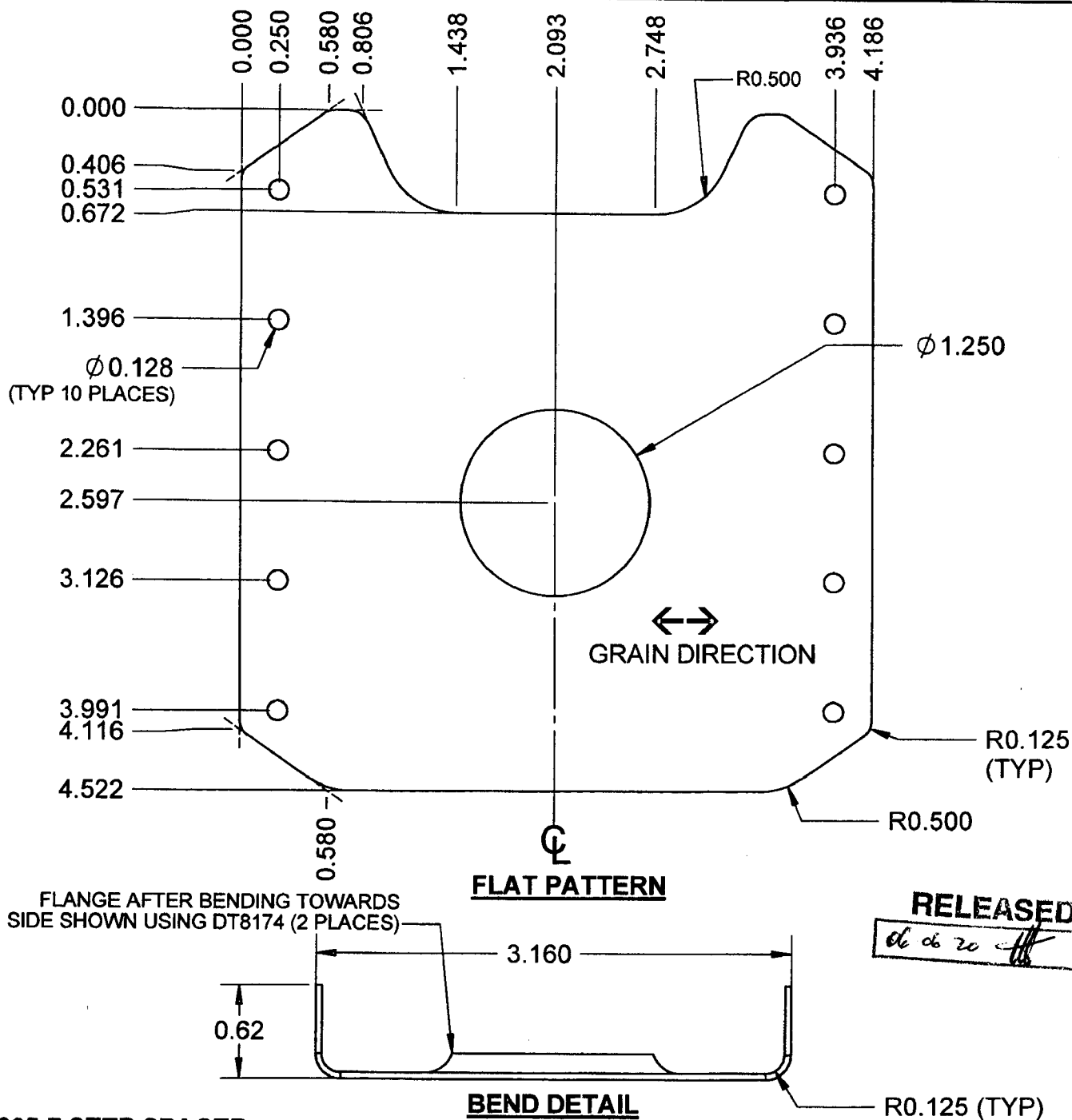
COPYRIGHT ©2002 BY DART AEROSPACE LTD.

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

100



DESIGN <i>CP</i>	DRAWN BY <i>CB</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>PH</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3065	REV. B
DATE 06.05.23	TITLE STEP LEG ASSEMBLY		SHEET 5 OF 5 SCALE 1:1



D3065-7 STEP SPACER

- 1) MATERIAL: 2024-T3 (PER QQ-A-250/4) 0.040 THICK (REF DART SPEC. M2024T3S.040)
- 2) FINISH: ACID ETCH & ALODINE PER DART QSI 005 4.1
- 3) PART IS SYMMETRIC ABOUT CENTERLINE
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.010
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 6) ALL DIMENSIONS ARE IN INCHES

COPYRIGHT © 2002 BY DART AEROSPACE LTD.

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

11



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO23011**

Purchase Order Date 2/14/2014

PO Print Date 2/14/2014

Page Number 7 of 9

Order From :

VC-LWC001

LOEBSACK WATERJET CANADA LTD.
55 NORTHFIELD DR. E.
P.O.BOX 339

WATERLOO, ONTARIO N2K 3T6

Ship To :

DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone

Ship To Contact

Ship To Phone

Ship Via:

FedEx PI collect

Ship Acct:

Buyer

Michael Gregoire

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

CAD

FOB

FCA - (Free Carrier)

19	D3065-3P	Step Spacer	3/28/2014	60.00	✓	\$7.00	\$420.00
			Yes	Each			
			3/28/2014				
		Manufacture as per drawing D3065 rev.b B112205					
	D3065-3P		3/28/2014	40.00	✓	\$7.00	\$280.00
				Each			
			3/28/2014				
		Manufacture as per drawing D3065 rev.b B113019					

Line Total: \$700.00

20	D3065-5P	Step Leg	3/28/2014	30.00		\$11.40	\$342.00
			Yes	Each			
			3/28/2014				
		Manufacture as per drawing D3065 rev.b B110750					
	D3065-5P		3/28/2014	80.00		\$11.40	\$912.00
				Each			
			3/28/2014				
		Manufacture as per drawing D3065 rev.b B112407					

Line Total: \$1,254.00

PO Instructions: PROCUREMENT QUALITY CLAUSES

A005 RIGHT OF ENTRY

A008 FIRST ARTICLE INSPECTION (FAI) BY SELLER, (DOCUMENTATION SENT TO DART AEROSPACE)

A012 CHEMICAL AND PHYSICAL TEST REPORTS

A016 PERSONNEL QUALIFICATION

A017 RAW MATERIAL IDENTIFICATION (AS APPLICABLE)

A026 CERTIFICATION OF MATERIAL CONFORMANCE

A042 DART NOTIFICATION BY SUPPLIER

Note:



55 Northfield Dr., E., Box 339
Waterloo, On. N2K 3T6
(519)570-6590
F. (519)893-4252

Certificate of Compliance

Sold To: DART Aerospace

Purchase Order Nu ID PO23011

Item	Quantity	Part Number	Revision	Description	Mtl. / Thk.	HT Number
18(4)	60	D3065-1	b	STEP SPACER	2024-T3 / 0.040"	663172A5
19(5)	100	D3065-3	b	STEP SPACER	2024-T3 / 0.040"	663172A5
21(7)	60	D3065-7	b	STEP SPACER	2024-T3 / 0.040"	663172A5
20(6)	110	D3065-5	b	STEP LEG	5052-H32 / 0.080"	3C5291
9(8)	20	D4093-1	d	BRACKET	6061-T6 / 0.750"	37797032
10(9)	10	D4093-3	d	BRACKET	6061-T6 / 0.750"	37797032
8(2)	20	D3319-1	c	WEARPLATE	CRS 18GA / 0.048"	3683T3-51
7(1)	20	D3319-3	c	WEARPLATE	CRS 18GA / 0.048"	3683T3-51
22(3)	120	D3537-1F	c	WEARPAD	304 SS / 0.063"	A1303988
11(10)	40	D3405-1F	b	GHW BRACKET	304 SS / 0.120"	350420

This is to certify that the whole of the supplies detailed hereon has been inspected, tested, packed, and unless otherwise stated, conform in all respects with the requirements of the contract or order.

Name: Derek Loebsack

Title: President

Sign: 

Dated:

07-14-04

THYSSENKRUPP MATERIALS NA

J.M. WOODTURNING LTD
ALUMINUM PLATE 6061-T651
750" THICK X 48.5000" X 96.5000"
PART NO.

PO/Rel FRED

We certify that this is a true copy of the report
furnished by the producer of the metal, and data
resulting from tests made in approved labs.

Certificate of Mill Test Results

BL PEC-851084-001

19Nov13

Pg 1/1

Signed by: _____

TEST CERTIFICATE



Certificate No: 1209182682

Hulamin Limited Reg. No. 154061294/09 VAT Reg No. 4063149604
HEAD OFFICE: Neue Hüttenstr. 3201, P.O. Box 74, Pilsenstraße 3200, South Africa
Telephone: +27 30 3556871 Telefax: +27 31 304 6335

BUYER: TA CHEN INTERNATIONAL INC 5855 ODUSPO AVE LONG BEACH CA 90805	Hulamin Load No: HLO18253	Product: PLATE HEAT TREATED L1NISHED, 6061-T651 0.75" x 48.5" x 96.5"
	Lot No: 17/09/032C8	Dimension: 0.75" X 48.5" X 96.5"
	P/lot No: 271181413	Alloy - Temper: 6061 - T651
	Release No: RE098658	
	Cust Order No: N03100-S	Certificate No: 1209182682
	HULAMIN Order No: 181742E	Cust Ref/Part No:
	Item Part: 1/1	Combined P/lot No: R'2104E

Cage No: PFW871

MECHANICAL TEST RESULTS

Lot No.	Cust No.	Metal Id	Alloy	Spec No.	Mechanical Properties							
					Yield Strength (Ksi)	UTS (Ksi)	Elongation A50 (%)	Enring (%)	Test Date	Gauge Length (Inches)	Hard Test	Actual Gauge (Inches)
Spec				Min	35.1	42.0	9					0.75
				Max								0.781
17/09/032C8	VAST	37797032	6061	1	41.6	48.7	15		07/09/12	2		0.765
				2	41.6	48.7	15		07/09/12	2		0.765

CHEMICAL COMPOSITION

	Cast No.	Alloy	Si (%)	Fe (%)	Cu (%)	Mn (%)	Mg (%)	Cr (%)	Zn (%)	Ti (%)	Each (%)	Total (%)	Al (%)
Min			0.40		0.15		0.8	0.04					
Max			0.8	0.7	0.40	0.15	1.2	0.35	0.25	0.15	0.05	0.15	
	VAST	6061	0.69	0.44	0.28	0.11	1.01	0.21	0.01	0.012			97.20

CONFORMS TO: ABME 88-309 ASTM B209/10 AMS 4027N AMS-004-750/11, 08.1997

For purposes of determining conformance with these specifications, an observed value or a calculated value shall be rounded "to the nearest unit" in the last right-hand digit used in expressing the specification limit, in accordance with the rounding method of ASTM Practice E29, for Using Significant Digits in Test Data to Determine Conformance with Specifications.

WE HEREBY CERTIFY, THAT THE MATERIAL DESCRIBED ABOVE HAS BEEN TESTED AND COMPLIES WITH THE TERMS OF THE ORDER CONTRACT. THE INSPECTION RESULTS INDICATED IN THE CHEMICAL COMPOSITION HAVE BEEN OBTAINED FROM CAST ANALYSIS.

Dr. A. Pochter (HEAD OF CHEMICAL TESTING)

Ver 1.0.1

V. Markov (HEAD OF PHYSICAL TESTING)

Printed Date: 15 Nov 2012

1 of 1

MILL TEST REPORT

TA CHEN INTERNATIONAL, INC.

This MTR contains 1 page (Page 1)

Customer: COMCON PO#:PEC-253613 SO#:PR6430
Item: 7504896061T651 Bundle:PFW871 Heat#:37797032

MTR#:HLCR181764_PFW

KAISER ALUMINUM FABRICATED PRODUCTS

Best in Class

CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

Kaiser Aluminum
Trentwood Works
Spokane, WA 99215-5108
(800) 367-2586

CUSTOMER PO NUMBER: 5400197766-20		WORK PACKAGE:	CUSTOMER PART NUMBER: ALFLR01581	PRODUCT DESCRIPTION: HT Flat Sheet	
KAISER ORDER NUMBER: 1160889	LINE ITEM: 2	SHIP DATE: 11/14/2013	ALLOY: 2024	CLAD: BARE	TEMPER: T3
WEIGHT SHIPPED: 3293 LB	QUANTITY: 117 PCS EST.	B/L NUMBER: 2044959	GAUGE: 0.0400 IN	WIDTH: 48.000 IN	LENGTH: 144.000 IN
SHIP TO: COPPER & BRASS SALES 404 CENTURA COURT SPARTANBURG, SC 29303 US			SOLD TO: COPPER & BRASS SALES ATTN: ACCOUNTS PAYABLE P.O. Box 5116 SOUTHFIELD, MI 48086 US		

MHU 1730227: LOT 663172A5: 117 pieces

Certified Specifications

AMS 4037/RevP AMS-QQ-A-250/4/RevA ASTM B 209/Rev10 CMMP 019/RevD CMMP 025/RevU

Test Code: 1504

Test Results:

LOT: 663172A5 CAST: 641 DROP: 27 INGOT: 3

Melted in USA
(ASTM E8/B557)
(EN 2002-1)

Tensile: Temper	Dir/#Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
T3	LT / 02 (Min:Max)	68.1 : 68.2 (470 : 470)	46.0 : 46.1 (317 : 318)	17.1 : 17.8

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual	0.09	0.23	4.7	0.57	1.3	0.01	0.16	0.02	0.01	0.00	TOT 0.03

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
2024	MIN 0.00	0.00	3.8	0.30	1.2	0.00	0.00	0.00	0.00	0.00	MAX 0.05
	MAX 0.50	0.50	4.9	0.9	1.8	0.10	0.25	0.15	0.05	0.05	TOT 0.15

Aluminum Remainder

Plant Serial: 4315340

Kaiser Order Number: 1160889

Line Item: 2

Page 1 of 2

From: ThyssenKrupp Materials NA

Cust. THYSSENKRUPP MATERIALS NA - ECAD Del.: 2402984673

CstAr

CstOr 256039

Wgt.: 55.296 LB

Date 02/20/2014

John R. Zambetti

KAISER
ALUMINUM
FABRICATED PRODUCTS

Best in Class

CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

Kaiser Aluminum
Trentwood Works
Spokane, WA 99215-5108
(800) 367-2586

CERTIFICATION

Kaiser Aluminum Fabricated Products, LLC (Kaiser) hereby certifies that metal shipped under this order was melted in the United States of America or a qualifying country per DFARS 225.872-1(a), was manufactured in the United States of America, and meets the requirements of DFARS 232.225 for domestic content. This material has been inspected, tested and found in conformance with the requirements of the applicable specifications as indicated herein. For material thicknesses outside specification limits, mechanical properties are as shown herein and chemical composition meets specification requirements. All metal which is solution heat treated complies with AMS 2772. Any warranty is limited to that shown on Kaiser's standard general terms and conditions of sale. Test reports are on file, subject to examination. Test reports shall not be reproduced except in full, without the written approval of Kaiser Aluminum Fabricated Products, LLC laboratory. The recording of false, fictitious or fraudulent statements or entries on the certificate may be punished as a felony under federal law. ISO-9001:2000 certified.

JAMES HEMENWAY, LABORATORIES SUPERVISOR

James Hemenway

Plant Serial: 4315340
Kaiser Order Number: 1160889
Line Item: 2

Page 2 of 2

From: ThyssenKrupp Materials NA

Cust. THYSSENKRUPP MATERIALS NA - ECAD Del.: 2402984673

CstAr

CstOr 256039

Wgt.: 55.296 LB

Date 02/20/2014

John L. Zumbach

FORM: 1006

WORKORDER:

2402984673

COPPER AND BRASS SALES

MATERIAL TYPE

ALUMINIUM ALLOYS

PRODUCT DESIGNATION

2014 2024 2224 2324 7050 7075 7150 7175 7475 ALUMEC 89 ALUMEC 99 QC-7

"WARNING"

SMALL CHIPS,FINE TURNINGS AND DUST MAY IGNITE READILY.EXPLOSION POTENTIAL MAY BE PRESENT WHEN:DUST OR FINES ARE DISPERSED IN THE AIR; FINE, DUST OR MOLTEN ALUMINUM ARE IN CONTACT WITH CERTAIN METAL OXIDES; OR,CHIPS,FINES,DUST OR MOLTEN ALUMINUM ARE IN CONTACT WITH WATER OR MOISTURE.KEEP AWAY FROM IGNITION SOURCE.USE EXPLOSION-PROOF VENTILATION.KEEP MATERIAL DRY.

THIS PRODUCT CONTAINS BERYLLIUM AND COPPER.INHALING BERYLLIUM DUST OR FUMES MAY CAUSE CHRONIC BERYLLIUM DISEASE (CBD),A SERIOUS CHRONIC LUNG DISEASE IN SOME INDIVIDUALS.BERYLLIUM IS A CANCER HAZARD;OVER TIME CBD AND CANCER CAN BE FATAL,TARGET ORGAN IS PRIMARILY THE LUNG.INHALING LARGE AMOUNTS OF COPPER,MAGNESIUM OXIDE,MANGANESE OXIDE,AND ZINC OXIDE FUMES OR DUST MAY CAUSE METAL FUME FEVER WITH FLU-LIKE SYMPTOMS.CHRONIC OVEREXPOSURE TO COPPER MAY CAUSE THICKENING OF THE SKIN;AND SKIN,TEETH,AND HAIR DISCOLORATION.CHRONIC OVEREXPOSURE TO MANGANESE DUST CAN CAUSE CENTRAL NERVOUS SYSTEM DAMAGE,SCARRING OF THE LUNGS AND REPRODUCTIVE HARM IN MALES.TARGET ORGAN IS PRIMARILY THE LUNG,BUT REPEATED HIGH EXPOSURE CAN ALSO AFFECT THE LIVER.CHRONIC OVEREXPOSURE TO IRON OXIDE DUST/FUME MAY CAUSE LUNG SIDEROSIS.CHRONIC OVEREXPOSURE TO SILICON DUST CAN CAUSE CHRONIC BRONCHITIS.OVEREXPOSURE TO AMORPHOUS SILICA CAN CAUSE DRYING OF THE MUCOUS MEMBRANES OF THE EYES,NOSE,AND THROAT.

THIS PRODUCT ALSO CONTAINS NICKEL AND CHROMIUM COMPOUNDS.INHALATION OF NICKEL DUST OR FUME MAY RESULT IN INFLAMMATION OF THE RESPIRATORY TRACT AND CAUSE NASAL AND/OR LUNG CANCER.NICKEL HAS BEEN IDENTIFIED AS A POTENTIAL HUMAN CARCINOGEN.EXPOSURE TO CHROMIUM DUST OR FUMES MAY CAUSE METAL FUME FEVER WITH FLU-LIKE SYMPTOMS AND KIDNEY AND LIVER DAMAGE.UNDER HIGH TEMPERATURES,HEXAVALENT CHROMIUM MAY BE PRODUCED,IF IN THE INSOLUBLE FORM,IT IS A CONFIRMED HUMAN CARCINOGEN.(CALIFORNIA PROPOSITION 65).

IF COATED WITH OIL,MAY CAUSE SKIN IRRITATION/DERMATITIS BY CONTACT.WELDING FUME IS LISTED AS A POSSIBLE CARCINOGENIC TO HUMANS.

READ THE ALUMINIUM/ALUMINUM ALLOYS MATERIAL SAFETY DATA SHEET (MSDS) ON FILE WITH YOUR EMPLOYER BEFORE WORKING WITH THIS MATERIAL.

* If processing or recycling produces particulate,use exhaust ventilation or other controls designed to prevent exposure to workers. Examples of such activities include melting, welding,grinding,abrasive sawing,sanding and polishing.Any activity which abrades the surface of this material can generate airborne particulate.Use appropriate NIOSH approved respiratory protection (P95; P100 for lead with, quantitative fit testing required) if exposures exceed the permissible limits.

* The Occupational Safety and Health Administration (OSHA) have set mandatory limits on occupational exposures.

* Aluminum, in solid form and as contained in finished products presents no special health risk.

* Sold for manufacturing purposes only.This product can be recycled; contact your sales representative.

For additional information, call or write to Copper and Brass Sales,22355 West Eleven Mile Road, Southfield, MI 48033,telephone 248-233-5600, or visit our web site @ www.copperandbrass.com.

ALUMINUM LABEL NO. 300-1056

ISSUED 10/01/2008

ADITYA BIRLA HINDALCO INDUSTRIES LIMITED



Jeevan Deep Building, 4 Prafulla Chandra Sen Sarani,
Mumbai-700071, India, Tel:+91-22-22402210
Fax: +91-22-22884808
Regd. Office: Century Bhavan, Dr. Annie Besant Road, Worli,
Mumbai - 400 025, INDIA.

Page 1 of 2

Date: 20-SEP-13

NAME OF THE PARTY: HYKSON CANADA INC., 161 THE WEST HALL, TORONTO, ONTARIO M5C4V8, CANADA.

PRODUCT: ALUMINIUM SHEET

QTY (MT): 20.923

LC/NO. & DATE: 61687167 Dt. 20.08.2013

INVOICE NO: HSB/R/2014/72

COPY

THE TEST RESULTS OF THE SAMPLES DRAWN AND TESTED IN OUR LABORATORY ARE AS FOLLOWS :

QUALITY CERTIFICATE

SERIAL	Package No	Alloy Temp	Net Wt (MT)	Size (mm)	Coil No.	Cast No./Heat No.
1	717380184	AA5052, H32	1.487	3048 X 1219 X 2.29	H13HASH0805002	717380184
2	2D019280184	AA5052, H32	1.808	3048 X 1524 X 2.54	H13HASH0819010	2D019280184
3	3CS3084	AA5052, H32	1.487	2438 X 1219 X 2.03	H13HASH0805017	3CS3084
4	2D019280185	AA5052, H32	1.503	3048 X 1524 X 2.54	H13HASH0819010	2D019280185
5	3CS3087	AA5052, H32	1.487	2438 X 1219 X 2.03	H13HASH0805017	3CS3087
6	717380185	AA5052, H32	1.911	3048 X 1219 X 2.29	H13HASH0805002	717380185
7	717290184	AA5052, H32	1.488	3048 X 1219 X 2.29	H13HASH0805001	717290184
8	717290182	AA5052, H32	1.485	3048 X 1219 X 2.29	H13HASH0805001	717290182
9	2D0193A0182	AA5052, H32	1.47	3048 X 1524 X 2.54	H13HASH0819011	2D0193A0182
10	717380182	AA5052, H32	1.487	3048 X 1219 X 2.29	H13HASH0805002	717380182

CHEMICAL COMPOSITION (%)

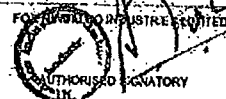
Cast No	Si	Fe	Mn	Mg	Cu	Zn	Cr	Al	B	Ni	Pb	V	Sn	W	Others	Rem. Alum.
1 717380184	.011	.214	.006	2.345	.001	0	0	.001	0	0	0	.001	0	0	0	97.121
2 2D019280184	.113	.205	.041	2.413	.01	0	0	.02	0	0	0	.005	0	0	0	96.887
3 3CS3084	.2	.48	.137	2.6	.009	0	0	.013	0	0	0	0	0	0	0	96.399
4 2D019280185	.133	.285	.041	2.413	.01	0	0	.02	0	0	0	.005	0	0	0	96.399
5 3CS3087	.2	.49	.137	2.6	.009	0	0	.013	0	0	0	0	0	0	0	96.399
6 717380185	.081	.216	.006	2.345	.001	0	0	.006	0	0	0	.001	0	0	0	97.121
7 717290184	.105	.262	.003	2.326	.001	0	0	.006	0	0	0	.001	0	0	0	96.873
8 717290182	.105	.262	.003	2.326	.001	0	0	.006	0	0	0	.001	0	0	0	96.873
9 2D0193A0182	.124	.101	.054	2.387	.016	0	0	.02	0	0	0	.005	0	0	0	96.89
10 717380182	.091	.214	.006	2.345	.001	0	0	.006	0	0	0	.001	0	0	0	97.121

MECHANICAL PROPERTIES

Cast No	UTS (Kg/mm2)	YS (Kg/mm2)	% Elongation	Hard Test
1 717380184	24.9	0	11.2	0 T Satisfactory
2 2D019280184	23.2	0	10.6	0 T Satisfactory
3 3CS3084	22.9	0	9.5	0 T Satisfactory
4 2D019280185	23.2	0	10.6	0 T Satisfactory
5 3CS3087	22.9	0	9.5	0 T Satisfactory
6 717380185	24.5	0	11.2	0 T Satisfactory
7 717290184	23.4	0	10.6	0 T Satisfactory
8 717290182	23.4	0	10.6	0 T Satisfactory
9 2D0193A0182	22.6	0	11.8	0 T Satisfactory
10 717380182	24.5	0	11.2	0 T Satisfactory

OTHER TESTS

Remarks:- (1) HYKSON PO NO.738570 (2) ISSUED BY THE MANUFACTURER.



ADITYA BIRLA HINDALCO INDUSTRIES LIMITED



Jeevan Deep Building, 1 Prafulla Chandra Sen Sarani,
Kolkata-700021, India, Tel: +91-33-22602210
Fax: +91-33-22604808
Regd. Office: Century Shevan, Dr. Amte Bazaar Road, Worli,
Mumbai - 400 028, INDIA.

Page 2 of 2

Date: 20-SEP-13

NAME OF THE PARTY: RYERSON CANADA INC., 161 THE WEST MALL, TORONTO, ONTARIO M5C4V8, CANADA,,
PRODUCT: ALUMINIUM SHEET.
QTY (MT): 20.921
LC/PO. & DATE: 64687167 Dt. 20.08.2013
INVOICE NO: HRS/R/2014/72

COPY

QUALITY CERTIFICATE

SRMO	Package No	Alloy Temper	Net Wt (MT)	Size (mm)	Coil Nos.	Coil No./Coil No.
11	3C53086	AA5052, H32	1.486	2438 x 1219 x 2.03	H13HASH0805017	3C53086
12	3C52981	AA5052, H32	1.517	2438 x 1219 x 2.03	H13HASH0805018	3C52981
13	2D0192B0182	AA5052, H32	1.501	3048 x 1524 x 2.54	H13HASH0819010	2D0192B0182
14	2D0193A0185	AA5052, H32	1.505	3048 x 1524 x 2.54	H13HASH0819011	2D0193A0185
Total-			20.921			

CHEMICAL COMPOSITION (%)

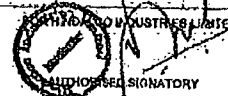
Coil No	Si	Fe	Mn	P	Cu	Sn	Cr	Al	Zn	Se	W	Pb	V	Co	Ni	Others	Res. Alum.
11 3C53086	.2	.48	.139	2.6	.003	0	0	.013	0	0	0	0	0	0	0		96.397
12 3C52981	.2	.48	.137	2.6	.003	0	0	.013	0	0	0	0	0	0	0		96.397
13 2D0192B0182	.173	.285	.041	2.413	.01	0	0	.02	0	0	0	.005	0	0	0		96.897
14 2D0193A0185	.124	.301	.066	2.367	.016	0	0	.02	0	0	0	.005	0	0	0		96.80

MECHANICAL PROPERTIES

OTHER TESTS

Coil No	UTS (Kg/cm2)	YS (Kg/cm2)	% Elongation	Read Test
11 3C53086	22.9	0	9.8	0 T Satisfactory
12 3C52981	22.4	0	10	0 T Satisfactory
13 2D0192B0182	23.2	0	10.6	0 T Satisfactory
14 2D0193A0185	22.6	0	11.8	0 T Satisfactory

Remarks:- (1) RYERSON PO NO.736670 (2) ISSUED BY THE MANUFACTURER.





ESSAR STEEL ALGOMA INC., 105 West Street, Sault Ste. Marie, Ontario, Canada P6A 7B4

SO No., Item & Date.: 8017177 000020 2014/01/09	Shipment No. & Date.: 1000083594 2014/01/10	TC No., Date & Time : ESA-128192 2014/01/12 - 08:41:14
Sold to Customer Name and Address : RYERSON INC FINANCIAL DRIVE 7525 BRAMPTON, Ontario, Canada L6Y 5P4	Ship to Customer Name and Address: RYERSON INC FINANCIAL DRIVE 7525 BRAMPTON, Ontario, Canada L6Y 5P4	Customer PO NO./Item: 744335 / 2 BOL NO.: 1000083594 Cust. Part No.: 7804-2405 Carrier : NATIONAL TRANSPORTATION - 1158A
Customer Specification : CR STEEL SHEET Carbon CQ / CS ASTM A1008 CS TY B (2012) Mark Number 7804-2405 Batch Annealed Top Semi Critical Surface Improved Shape Pickled Light Oiled Light Matte Finish Edge Sealant Required Std Thickness Tol		

Supplementary Instructions : Test Cert 1:905-792-1617

Insp T/R : Chemical Analysis

Cust Use : AUTO IMPROVED SHAPE & SURF

ESSAR STEEL ALGOMA INC. HEREBY CERTIFIES THAT THE MATERIAL HEREIN DESCRIBED WAS MADE AND TESTED IN ACCORDANCE WITH THE RULES OF THE SPECIFICATION SHOWN. ALL RESULTS ARE RETAINED IN ACCORDANCE WITH THE COMPANY'S STANDARD RECORD KEEPING PRACTICES. THIS MILL TEST REPORT MAY NOT BE REPRODUCED EXCEPT IN FULL WITHOUT WRITTEN APPROVAL OF ESSAR STEEL ALGOMA INC. IF YOU RECEIVE THIS DOCUMENT AND ARE NOT THE INTENDED RECEIVER, PLEASE CALL (705)945-4095 FOR INSTRUCTIONS ON METHOD OF DISPOSAL OF DOCUMENT.

MEETS EN 10204 3.1
ISO QUALITY AND ENVIRONMENTAL CERTIFICATES AVAILABLE AT WWW.ESSARSTEELALGOMA.COM

ALL HEATS FULLY KILLED.
HEATS INDICATED WITH (*) FINE GRAINED.
HEATS INDICATED WITH (+) MADE IN CANADA WITH DOMESTIC AND NORTH AMERICAN MATERIALS.

Dimensions (T x W x L)	Batch No.	Heat No.-MS	Quantity	Pcs
0.0440 " x 48.000 "	SAM9918B	3683T3-51	21,740 LB	1

CHEMICAL PROPERTIES															
Heat No. (wt%)	C	Mn	P	S	Si	Cr	Ni	Cu	Mo	Al	Nb	V	B	Ti	N
3683T3*	0.04	0.26	0.003	0.007	0.020	0.01	0.01	0.01	0.00	0.035	0.000	0.000	0.0000	0.001	0.0033

K. UGHADPAGA
MANAGER METALLURGICAL SERVICES

****WARNING**** THE TEST RESULTS AND VALUES REPORTED HEREIN INDICATE ONLY THAT (1) THE PARTICULAR STEEL FOR WHICH THIS CERTIFICATE IS ISSUED MEETS THE MINIMUM SPECIFIED YIELD STRENGTH AND (2) THE ANALYSIS AND PHYSICAL PROPERTIES OF SUCH STEEL ARE IN CONFORMANCE WITH THE REQUIREMENTS OF THE SPECIFICATION INDICATED. THE RESULTS OR VALUES REPORTED HEREIN CAN NOT BE USED TO QUALIFY THE STEEL FOR ANY SPECIFICATION OTHER THAN THE ONE INDICATED AND CAN NOT BE RELIED UPON FOR ANY PURPOSE (INCLUDING DESIGN OR CALCULATIONS) AS REPRESENTING THE ACTUAL STRENGTH OF SUCH STEEL.

Date: 2014/01/12 Time: 08:41:14 Page no: 1 of 1

PO/Rel

We certify that this is a true copy of the report furnished by the producer of the metal, or data resulting from tests made in approved labs.

Signed by:

Attn: RICK

PART NO.

产品质量证明书 MATERIAL TEST CERTIFICATE

无锡宝昌金属制品有限公司

Wuxi Baoshang Metal Products Co., Ltd

PAGE 2 OF 2

单号码: EX1309301GS
Order No.
买方: GLOBAL STAINLESS STEEL INC.
Order
用户家: GLOBAL STAINLESS STEEL INC.
ONSIGNEE

品名: STAINLESS STEEL SHEETS,
Commodity SLIT EDGE

标准: ASTM A240/A240M
Specification:

牌号: 304

Type

表面加工: 2B

Surface Finish

编号: EX1309301

Invoice No.

发行日期: 2013-10-26

Date

序号 No.	货物编号 Product No.	产品尺寸 Product Size			数量 Number	重量 Weight Kg	拉伸试验 Tensile Test			表面硬度 Hardness HRB	炉批号 HEAT NO.	化学成分 Chemical Composition (%)							
		厚度 Thickness MM	宽度 Width MM	长度 Length MM			屈服强度 0.2% YS N/mm ²	抗拉强度 TS N/mm ²	延伸率 EL %			C	Si	Mn	P	S	Ni	Cr	N
12	13102612	0.6096	1219.2	2438.4	118	1612	250	690	57	83	A1300883	0.0400	0.390	1.1300	0.0350	0.0010	8.0200	18.120	0.0400
13	13102613	0.6096	1219.2	2438.4	118	1616	250	690	57	83	A1301883	0.0400	0.390	1.1300	0.0350	0.0010	8.0200	18.120	0.0400
14	13102614	0.7620	1219.2	2438.4	88	1644	271	665	58	89.5	A1300683	0.0400	0.390	1.1300	0.0350	0.0010	8.0200	18.120	0.0400
15	13102615	0.7620	1219.2	2438.4	87	1626	271	665	58	89.5	A1300883	0.0400	0.390	1.1300	0.0350	0.0010	8.0200	18.120	0.0400
16	13102616	1.2192	1219.2	2438.4	54	1494	267	695	55	87	A1303987	0.0400	0.550	1.1000	0.0330	0.0010	8.0200	18.160	0.0400
17	13102617	1.2192	1219.2	2438.4	50	1378	267	695	55	87	A1303987	0.0400	0.550	1.1000	0.0330	0.0010	8.0200	18.160	0.0400
18	13102618	1.2192	1219.2	3048	42	1460	267	695	55	87	A1303987	0.0400	0.550	1.1000	0.0330	0.0010	8.0200	18.160	0.0400
19	13102619	1.2192	1219.2	3048	45	1574	267	695	55	87	A1303988	0.0400	0.430	1.1300	0.0380	0.0010	8.0300	18.230	0.0300
20	13102620	1.5240	1219.2	2438.4	43	1485	271	680	52	87	A1303988	0.0400	0.430	1.1300	0.0380	0.0010	8.0300	18.230	0.0300
21	13102621	1.5240	1219.2	2438.4	43	1487	271	680	52	87	A1303988	0.0400	0.430	1.1300	0.0380	0.0010	8.0300	18.230	0.0300
22	13102622	1.9050	1219.2	2438.4	40	1725	268	650	55	84	A2304006	0.0300	0.440	1.1500	0.0380	0.0010	8.1000	18.250	0.0400
23	13102623	1.9050	1219.2	2438.4	41	1755	268	650	55	84	A2304006	0.0300	0.440	1.1500	0.0380	0.0010	8.1000	18.250	0.0400
24	13102624	3.0480	1219.2	3048	17	1482	280	675	54	84	A1303883	0.0400	0.390	1.1300	0.0350	0.0010	8.0200	18.120	0.0400
25	13102625	3.0480	1219.2	3048	19	1656	280	675	54	84	A1303883	0.0400	0.390	1.1300	0.0350	0.0010	8.0200	18.120	0.0400

备注 (Remarks):

1. 尺寸和表面: 合格

Size and Surface: Guaranteed

兹证明所列产品均符合订单和标准的制造要求

WE HEREBY CERTIFY THAT THE MATERIAL HEREIN HAS BEEN MADE IN ACCORDANCE WITH THE ORDER AND SPECIFICATION

*此报告仅可完全复制

*The report can only be copied completely

技术本部
TECHNICAL DEPT.

无锡宝昌金属制品有限公司
WUXI BAOSHANG METAL PRODUCTS CO., LTD.

THYSSENKRUPP MATERIALS NA

Certificate of Mill Test Results

BI. PEC-000000-000

Pg 1/1

PO/Rel

We certify that this is a true copy of the report furnished by the producer of the metal, or data resulting from tests made in approved labs.

Signed by:

Att: RICK

PART NO.

[illegible]